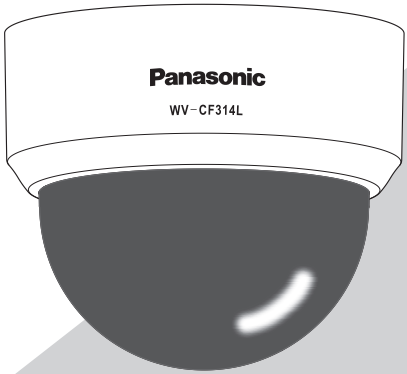
Panasonic

Installation Guide

Color CCTV Camera

Model No: WV-CF314LE
WV-CF304LE



This illustration represents WV-CF314LE.

Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

The model number is abbreviated in some descriptions in this manual.

We declare under our sole responsibility that the product to which this declaration relates is in conformity with the standards or other normative documents following the provisions of Directive 2004/108/EC.

Wij verklaren als enige aansprakelijke, dat het product waarop deze verklaring betrekking heeft, voldoet aan de volgende norm of ander normatief dokument, overeenkomstig de bepalingen van Richtlijn 2004/108/EC.

Wir erklären in alleiniger Verantwortung, daß das Produkt, auf das sich diese Erklärung bezieht, mit der folgenden Norm oder normativen Dokument übereinstimmt. Gemäß den Bestimmungen der Richtlinie 2004/108/EC.

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Nosotros declaramos bajo nuestra única responsabilidad que el producto a que hace referencia esta declaración está conforme con la norma u otro documento normativo siguiendo las estipulaciones de la directiva 2004/108/CE.

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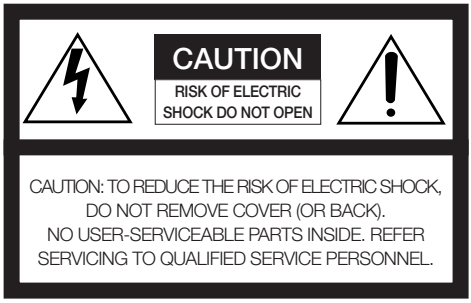

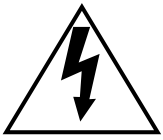

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

- To prevent fire or electric shock hazard, do not expose this apparatus to rain or moisture.
- The apparatus should not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, should be placed on the apparatus.
- All work related to the installation of this product should be made by qualified service personnel or system installers.
- To prevent injury, this apparatus must be securely attached to the floor/wall/ceiling in accordance with the installation instructions.
- The installation shall be carried out in accordance with all applicable installation rules.
- This product has no power switch.
  When turning off the power, turn off a Power Supply or remove a power cable.
- The connections should comply with local electrical code.

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Important safety instructions

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

10) Only use attachments/accessories specified by the manufacturer.

11) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

12) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Limitation of liability

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IN NO EVENT SHALL Panasonic System Networks Co., Ltd. BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR REPLACEMENT OR REASONABLE MAINTENANCE OF THE PRODUCT, FOR THE CASES, INCLUDING BUT NOT LIMITED TO BELOW:

(1) ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT;
(2) PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER;
(3) UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER;
(4) INCONVENIENCE OR ANY LOSS ARISING WHEN IMAGES ARE NOT DISPLAYED, DUE TO ANY REASON OR CAUSE INCLUDING ANY FAILURE OR PROBLEM OF THE PRODUCT;
(5) ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY;
(6) ANY CLAIM OR ACTION FOR DAMAGES, BROUGHT BY ANY PERSON OR ORGANIZATION BEING A PHOTOGENIC SUBJECT, DUE TO VIOLATION OF PRIVACY WITH THE RESULT OF THAT SURVEILLANCE-CAMERA'S PICTURE, INCLUDING SAVED DATA, FOR SOME REASON, BECOMES PUBLIC OR IS USED FOR ANY PURPOSE.

Preface

This product is a 1/3-type CCD color CCTV camera. Clear images can be captured although at the illuminance of 0 lx (black-and-white and IR LED on). Connection of this product to a video monitor allows users to use this product as a monitoring camera.

- WV-CF314LE: with color / black-and-white mode switch function and automatic back focus adjustment function
- WV-CF304LE: with color / black-and-white mode switch function

About notations

The following notations are used when describing the functions limited for specific models. The functions without the notations are supported by all models.

CF314L: The functions with this notation are available when using the model WV-CF314LE.
CF304L: The functions with this notation are available when using the model WV-CF304LE.

Features

Introduction of newly developed high-resolution CCD
The introduction of the newly developed CCD with 976 horizontal pixels has led to a horizontal resolution of as high as 650 TV lines.

High sensitivity achieved because of noise reduction function
Sensitivity at the following minimum illuminations has been accomplished for color images because of the introduction of low noise circuit design:
CF314L: Lens (built in): F1.3: 0.08 lx (color), 0 lx (black-and-white, IR LED on)
CF304L: Lens (built in): F2.0: 0.15 lx (color), 0 lx (black-and-white, IR LED on)

Day/Night conversion function equipped
No setup change is required at night because the image automatically changes from the color mode to the black-and-white mode at low illuminance.
Clear images can be captured even at night or at low illuminance because of automatic switching of IR filters as well as automatic turning on of IR LED.

Automatic back focus adjustment function equipped CF314L
Auto focus is achieved at installation of the camera or through menu operation.

Infrared mode function
According to the distance of objects, illumination intensity of the infrared LED lights will automatically change to avoid white phenomenon when close targets are captured.

Motion detection function (VMD) equipped
The motion of an object is detectable. The acts of covering the camera with a cloth, a cap or other acts and changing the camera direction during surveillance can be detected.

Note:
- The VMD function is not the dedicated function to prevent thefts, fires, etc. We are not responsible for any accidents or damages caused by applying the function for the above purposes.

About the user manuals

The operating instructions of the camera consist of 2 sets: this book and operating instructions (PDF).
This book explains how to install the camera.
Refer to the "Operation Instructions (PDF)" on the provided CD-ROM for descriptions of how to perform the unit settings. Adobe® Reader® is required to read PDF. When the Adobe® Reader® is not installed on the PC, download the latest Adobe® Reader® from the Adobe web site and install it.

Trademarks and registered trademarks

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Precautions

Refer installation work to the dealer.

Installation work requires technique and experiences. Otherwise injury or damage to this product may result.
Be sure to consult the dealer.

Do not insert any foreign objects.

This could permanetly damage this product. Turn the power off immediately and contact qualified service personnel for service.

Do not attempt to disassemble or modify this product.

Failure to observe this may cause fire or electric shock.
Consult the dealer for the repair or inspections.

Stop operation immediately when something is wrong with this product.

When smoke goes up from this product or the smell of smoke comes from this product, continued use will result in fire, injury, or damage to the product.
Turn the power off immediately and contact qualified service personnel for service.

Select an installation area that can support the total weight.

Selecting an inappropriate installation surface may cause the product to fall down or topple over, resulting in injury.
Installation work shall be started after sufficient reinforcement.

Periodic inspections shall be conducted.

Rust on the metal parts or screws may cause the product to fall down resulting in injury or accidents.
Consult the dealer for the inspections.

This product shall be installed in a vibration-free place.

Failure to observe this may cause screws and bolts to be loosened and consequently to fall resulting in injury.

Install this product in a location high enough to avoid people and objects from bumping the product.

Failure to observe this may cause a drop resulting in injury or accidents.

Do not strike or give a strong shock to this product.

Failure to observe this may cause injury or fire.

Turn the power off when do wiring of this product.

Failure to observe this may cause electric shock. A short circuit or wrong wiring may cause fire.

Do not use this product in an atmosphere of flammable gases.

Failure to observe this may cause injury by explosion.

Avoid installing this product in locations where it is subject to damage by salt or corrosive gas.

Otherwise the mounting fixtures will deteriorate, causing the product to fall down and leading to accidents.

Tighten screws and mounting fixtures to the specified torque.

Failure to observe this may cause a drop resulting in injury or accidents.

[Precautions for use]

This product is designed to be used indoors.

This product is not operable outdoors.

This product has no power switch.

When turning off the power, turn off a circuit breaker.

To keep on using with stable performance

Parts of this product may deteriorate and it may shorten the lifetime of this product when using in locations subject to high temperatures and high humidity. (Recommended operating temperature: +35 °C or lower)
Do not expose this product to direct heat sources such as a heater.

Handle this product with care.

Do not drop this product, nor apply shock or vibration to the product. Failure to observe this may cause trouble. If a strong shock or vibration is applied to the front cover, it may cause damage or allow water to enter this product.

Do not touch the dome cover with your bare hands.

A dirty dome cover causes deterioration of picture quality.

Noise on monitor

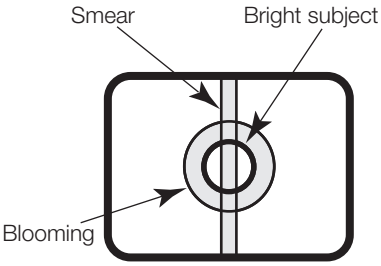
This product is equipped with a super sensitive CCD. Therefore, noise may appear on the monitor. This phenomenon is not trouble.

Discoloration on the CCD color filter

When continuously shooting a bright light source such as a spotlight, the color filter of the CCD may have deteriorated and it may cause discoloration. Even when changing the fixed shooting direction after continuously shooting a spotlight for a certain period, the discoloration may remain.

Do not aim this product at strong light sources.

A light source such as a spot light causes a blooming (light bleeding) or a smear (vertical lines).



Cleaning this product body

Be sure to turn off the power before cleaning. Failure to observe this may cause injury. Do not use strong abrasive detergent when cleaning this product. Otherwise, it may cause discoloration. When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.

Cleaning the lens

Use a lens cleaning paper (used to clean camera lenses or lenses of spectacles). When using solvent, use an alcohols solvent and do not use a thinner or a glass cleaner.

Synchronous mode setting

Image synchronous mode of this camera indicates internal synchronization (INT) only. Set the multiplexed vertical drive (VD2) as OFF when the camera is connected to the system controller of the company.

Precautions for installation

Panasonic assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this documentation.

This product is designed to be used indoors.

This product is not operable outdoors.
Do not expose the product to direct sunlight for hours and do not install the product near a heater or an air conditioner. Otherwise, it may cause deformation, discoloration and malfunction. Keep the product away from water and moisture.

Installing place

Contact your dealer for assistance if you are unsure of an appropriate place in your particular environment.

- Make sure that the installation area is strong enough to hold the product, such as a concrete ceiling.
- Install the camera in the foundation area of the architecture or where sufficient strength is assured.
- If a ceiling board such as plaster board is too weak to support the total weight, the area shall be sufficiently reinforced.

Avoid installing this product in the following locations.

- Location where it may get wet from rain or water splash.
- Locations where a chemical agent is used such as a swimming pool.
- Locations subject to steam and oil smoke such as a kitchen.
- Locations near flammable gas or vapor.
- Locations where radiation or x-ray emissions are produced.
- Locations where corrosive gas is produced, Locations where it may be damaged by briny air such as seashores.
- Locations where the temperature is not within –10 °C to +50 °C.
- Locations subject to vibrations (This product is not designed for on-vehicle use.)
- Locations subject to condensation as the result of severe changes in temperature (In case of installing the product in such locations, the dome cover may become foggy or condensation may be caused on the cover.)

Avoid moist or dusty places to install this product.

Otherwise, lifetime of the internal parts may be shortened.

Avoid installing this product in a place with a high level of noise.

Installation near an air conditioner, an air cleaner, a vending machine, or the like causes noise.

Avoid installing and connecting during a lightning storm. Otherwise, an electric shock or fire may be caused.

Be sure to remove this product if it is not in use.

Do not damage the power plug or cable.

Keep the camera cable away from the lighting cable.

Failure to observe this may cause noise.

Radio interference

When the camera is used near TV/radio antenna, strong electric field or magnetic field (near a motor or a transformer), images may be distorted and noise sound may be produced. In such a case, run the camera cable through specialized steel conduit tubes.

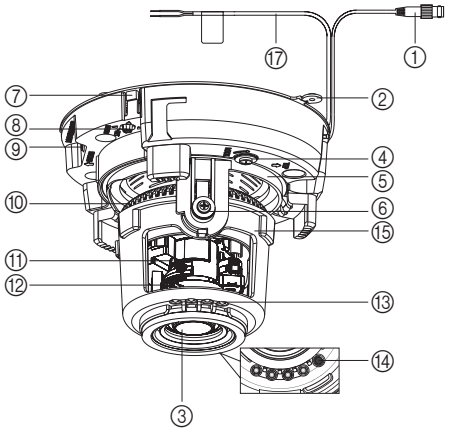
Locally procure the screws

Screws are not supplied with this product. Prepare the screws according to the material, structure, strength and other factors of the mounting area and the total weight of objects to be mounted.

Screw tightening

- The screws and bolts must be tightened with an appropriate tightening torque according to the material and strength of the installation area.
- Do not use an impact driver. Failure to observe this may cause overtightening and consequently damage to the screws.
- When a screw is tightened, make the screw at a right angle to the surface. After tightening the screws or bolts, perform visual check to ensure tightening is enough and there is no backlash.

Major operating controls and their functions



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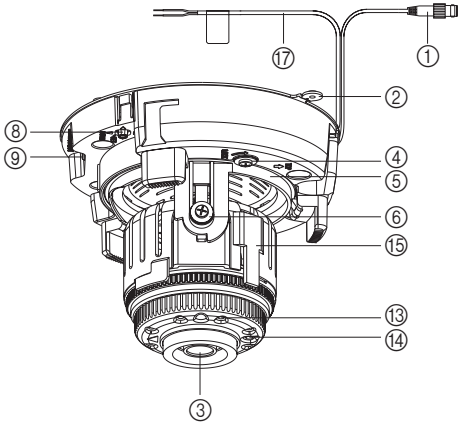

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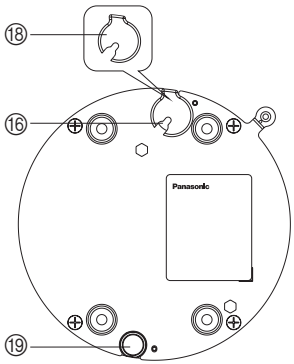


① **Video output connector**
Transmits composite video signals.

② **Mark**
This mark is used when the dome cover is installed.

③ **Lens**

④ **Panning table lock screw [LOCK]**
Locks the panning position after adjustment.

⑤ **Panning table**
Adjusts the panning position of the camera.

⑥ **Tilting lock screw**
Fixes the tilting position.

⑦ **AF button [ABF]** CF314L
☞ page 21.

⑧ **Setup button [SET]**
Hold down the [SET] button for more than 2 seconds and the setup menu will be displayed.

- [LEFT] / [RIGHT]: Press the [RIGHT] or [LEFT] button to move to the right or left in the menu, or change the displayed values.
- [UP] / [DOWN]: Press the [UP] or [DOWN] button to move up or down in the menu.

- [SET]: Press this button in the menu to confirm the selected value or function. In addition, this button is used to open submenus.

⑨ **Adjustment monitor output jack**
Connect the adjustment monitor (small LCD monitor, etc.) to the adjustment monitor output jack to adjust the camera angle.

⑩ **Azimuth adjuster**
Adjusts the azimuth angle of the camera.

⑪ **Zoom knob (with lock function)** CF314L
Locks the zoom position after zoom adjustment.

⑫ **Focus knob** CF314L

⑬ **IR LED**

⑭ **LED photoptic**

⑮ **Tilting table**
Adjusts the tilting position of the camera.

⑯ **Cable access hole**

⑰ **Power cord**
Supplies 24 V AC or 12 V DC from an external power source.

⑱ **Dust guard cap**
A rubber cap which prevent dust go into the camera through the cable access hole.

⑲ **Fingerplate**
This is where to put your fingers when removing the dome cover.

Preparations

When installing the camera on a wall or ceiling, there are two methods as specified below.

- Use the two-gang junction box
- Installing the camera directly on a wall or ceiling

Important:

- Procure 4 screws (M4) to secure the camera to a wall or ceiling according to the material of the installation area. Do not use wood screws and nails. For mounting a camera on a concrete wall or ceiling, use an anchor bolt (M4) for securing.
  (Recommended tightening torque M4: 1.6 N·m {1.18 lbf·ft})
- Required pull-out strength of a single screw/bolt is 196 N or more.
- If a ceiling board such as plaster board is too weak to support the total weight, the installation area shall be sufficiently reinforced.
- The protection sheet attached to the dome section should be peeled off after installation.

The mounting conditions of the camera are described as follows:

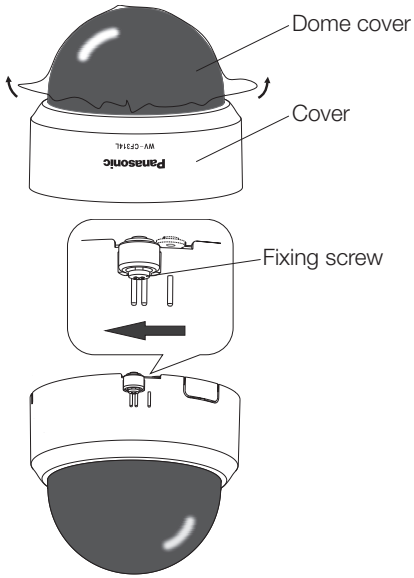
Installation place	Applicable mount bracket	Recommended screw	Number of screw	Minimum pull-out strength (per 1 pc.)
Ceiling / wall	Two-gang junction box (locally procured)	M4	4 pcs.	196 N
Ceiling / wall	(Direct mounting)	M4	4 pcs.	196 N

Remove the dome cover

① Peel off the protection sheet from the dome cover. Don't remove completely as this protects the dome during installation.

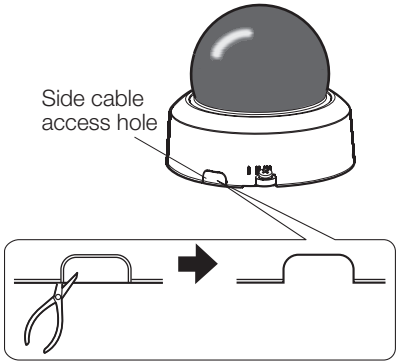
② Loosen the dome cover fixing screw.

③ Adjust the mark on this unit to [] on the dome cover, and turn the dome cover counterclockwise to remove it.



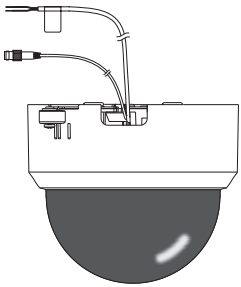
About the side cable access hole

If you choose not to drill hole in the wall or ceiling, but to wire the camera with the cable exposed, cut the cable access hole on the side of the dome cover to provide a cable entry.



Precautions when wiring from the side:

- Remove the dust guard cap. Run the cable through the cable access hole and bend it inward, then reinstall the dust guard cap.
- Run the cable through the side cable access hole as shown.
- Be careful not to pinch the cable with the dome cover.



Installation method of camera

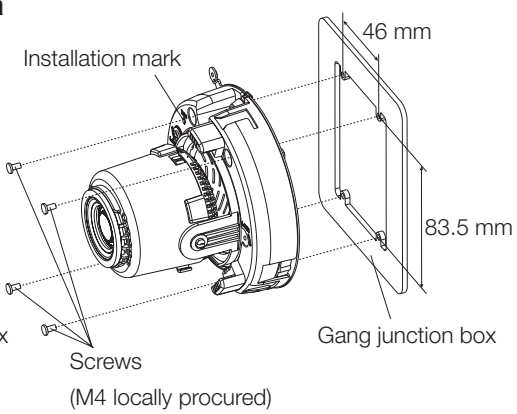
Using a gang junction box (locally procured)

When using a gang junction box, procure one locally that meets the dimensions in the figure. Next locally procure 4 camera-mounting screws suitable for the installation surface and structure of the wall/ceiling or gang junction box.

① Attach the gang junction box to the wall or ceiling.

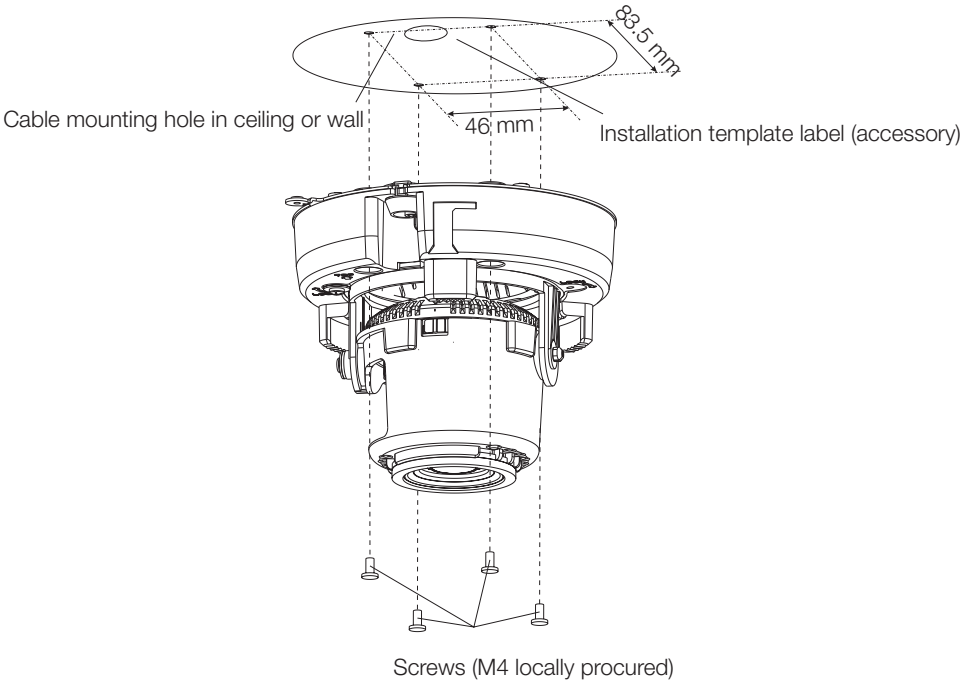
② Attach the camera to the gang junction box with the 4 screws.

③ Tighten all mounting screws.



Installing the camera directly on a wall or ceiling

Affix the installation template label (accessory) to the ceiling or wall, and use a pen to mark the positions of the screws and cable mounting hole in the ceiling or wall.
Remove the installation template label, and attach the camera with 4 screws (M4, locally procured).



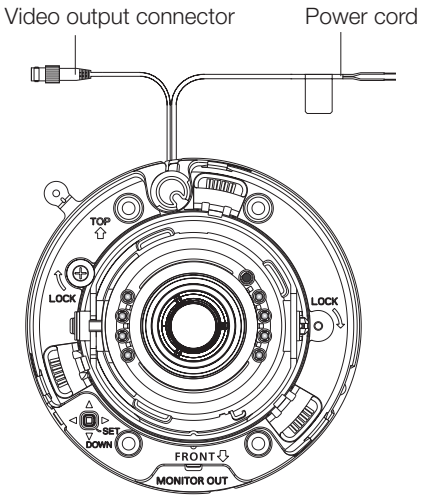
■ Connections

Connect the video output

Important:

- Be sure to turn off the power of each device before connecting.
- Be sure to secure the coaxial cable connectors.

Connect a coaxial cable (locally procured) to the video output connector.



Connect the power supply

Connect the power cord of the camera to the power supply. The colors and functions of the conductors are shown below.

Color	12 V DC	24 V AC
Brown	**Positive**	**Live**
Blue	**Negative**	**Neutral**

Important:

- The power supply of 24 V AC/12 V DC shall be insulated against 220 to 240 V AC.
- The power supply is automatically switchover either 24 V AC or 12 V DC. No setting is required with this camera.

Connection of power cord

When connecting the power cord, use connectors that are designed for the power cord, and be careful not to let the power cord fall off.
In addition, waterproofing work is needed at the joint, e.g., wrapping waterproof tape around the joint.

Cable length and wire gauge

24 V AC

The recommended cable length and wire gauge are shown in the table for reference. The voltage supplied to the power terminals of the camera should be within 19.5 V AC and 28 V AC.
The recommended wire size for 24 V AC power cord is shown below:

Copper wire size (AWG)		#24 (0.205 mm^2)	#22 (0.325 mm^2)	#20 (0.519 mm^2)	#18 (0.833 mm^2)	#16 (1.307 mm^2)
Length (approx.)	(m)	20	30	45	75	120

12 V DC

Calculation of the relation among the cable length, resistance, and power supply.
The voltage supplied to the camera shall be between 10.8 V DC and 16 V DC.
10.8 V DC ≤ V_A - 2 (R x I x L) ≤ 16 V DC
L : Cable length (m)
R : Resistance of copper wire (Ω/m)
V_A : DC output voltage of power supply unit
I : DC current consumption (A)
See specifications.
Resistance of copper wire [at 20 °C]

Copper wire size (AWG)	#24 (0.205 mm^2)	#22 (0.325 mm^2)	#20 (0.519 mm^2)	#18 (0.833 mm^2)	#16 (1.307 mm^2)
Resistance Ω/m	0.083	0.052	0.033	0.020	0.013

Installation

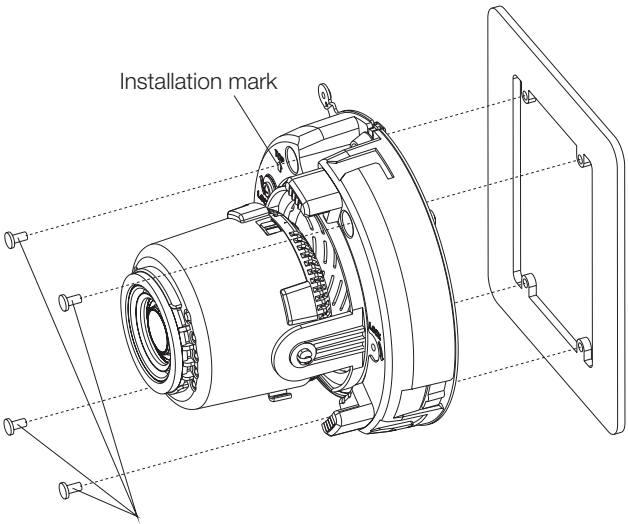
Installation of camera

Turn off the power of all related devices before installation.

1 Remove the dome cover.

2 Connect all cables.

3 Install the camera (The illustration below shows installation using a gang junction box).
Mount the camera with 4 screws (M4, locally procured).



Important:

- Be sure to avoid twisting the cables when tightening the screws.

Note:

- When attached to the ceiling:
  Install the camera with the "FRONT ⇩" arrow of the installation mark facing forward.
- When attached to the wall:
  Install the camera with the "⇧ TOP" arrow of the installation mark facing upward.

Adjustment

1 Connect the ∅3.5 mm miniature plug (mono channel) to the adjustment monitor output jack.

Important:

- This video output is intended for confirmation of view angle, etc. during installation or repair service, and not for recording or monitoring.

Note:

- Adjustment monitor output jack is prior to video output cable. Video cannot be output through the video output cable after connecting the adjustment monitor.

2 When the camera is installed on the wall, select "ON" for "UPSIDE-DOWN" in the setup menu. (Refer to page 23 of Operating Instructions for detailed information)

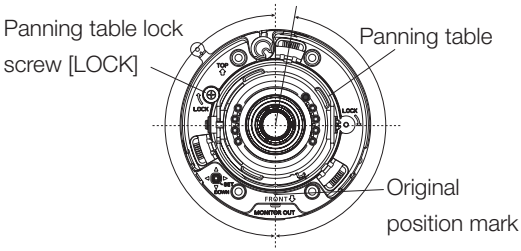
3 Pan, tilt and azimuth adjustment

Important:

- When adjusting pan, tilt or azimuth, do not hold the lens of the camera.

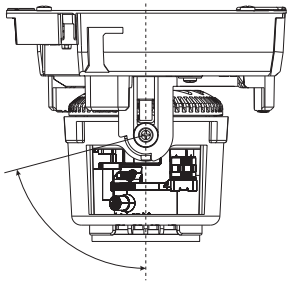
① **Adjustment of panning position**
Loosen the panning table lock screw and rotate the table to determine the panning position (adjustable range: -170 ° to +180 °).

- The panning position can be adjusted between +180 ° (clockwise) and –170 ° (counter-clockwise).
- After the panning position is determined, fix the panning table with the panning table lock screw.
(Recommended torque: 0.39 N·m {0.29 lbf·ft})



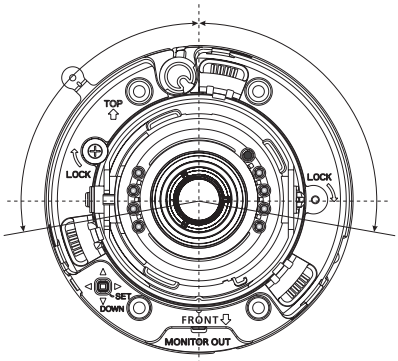
② **Adjustment of tilting position**
Turn the tilting table to adjust the tilting position of the camera. (adjustable range: 0 to 75 °)

- Tighten the tilting lock screw after adjustment.
(Recommended torque: 0.59 N·m {0.44 lbf·ft})



③ **Adjustment of azimuth**

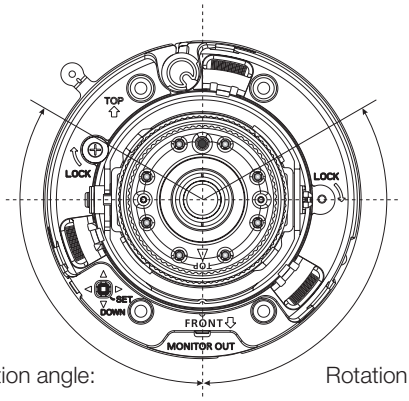
Adjust the azimuth by rotating the azimuth adjuster.



Rotation angle: -100 °

Rotation angle: +100 °

(This illustration represents WV-CF314LE.)



Rotation angle: -120 °

Rotation angle: +120 °

(This illustration represents WV-CF304LE.)

Note:

- CF314L Adjust azimuth adjuster to make the image in the forward direction.
- CF304L Adjust azimuth adjuster, refer to the following pictures, to display the image properly rather than upside-down.

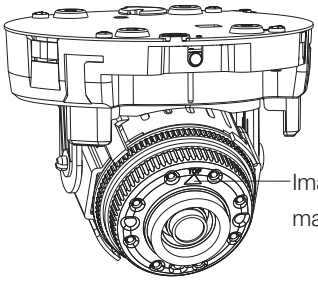


Image top mark

On the ceiling

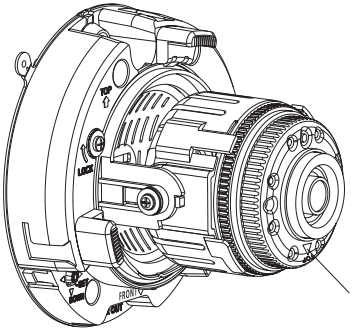


Image top mark

On the wall ("ON" for "UPSIDE-DOWN")

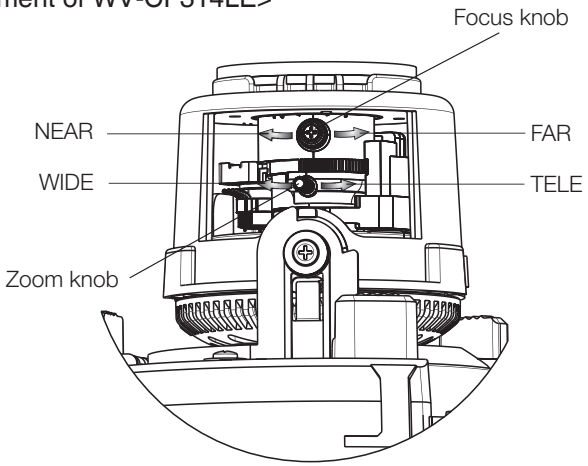
4 Zoom and focus adjustment CF314L

Perform the zoom and focus adjustments at the same time as pan and tilt adjustments (Step 3).

Note:

- When the camera is installed on a wall, perform zoom and focus adjustment first, then adjustment of azimuth.
- If the camera is used in near-horizontal position, the shadow of the dome cover may appear in the image.

<Adjustment of WV-CF314LE>



① Loosen the zoom knob and adjust to the best view angle between TELE and WIDE.

Note:

- The focus may not be adjusted smoothly when the zoom adjustment ring is extremely close to the end of W direction (T direction). At this time, slightly adjust the zoom adjustment ring towards the T direction (W direction), and then adjust the focus.

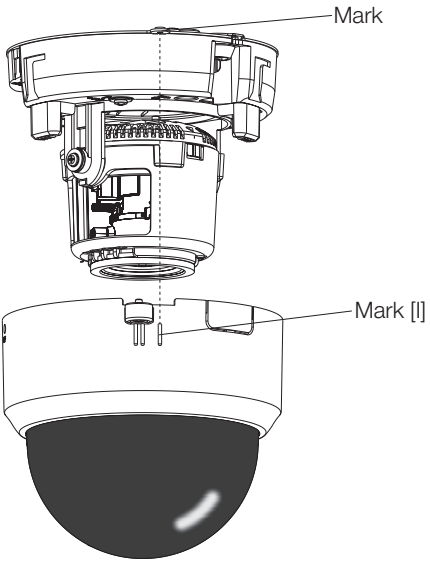
② Tighten the zoom knob.
③ Rotate the front of the lens, and make coarse adjustment of the focus between NEAR and FAR.
④ Press the [AF] button on the side of the camera, and the ABF function will automatically focus.

Note:

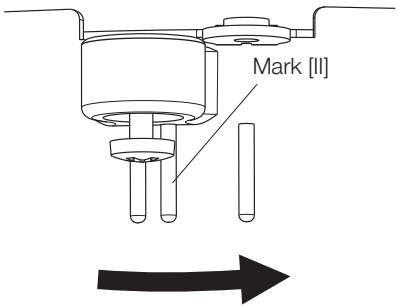
- The ABF function is not available over the entire focus range. Be sure to perform approximate adjustment of the view angle before manual focusing, and then press the [AF] button to enable the ABF function.
- For the following subjects, select ELC control method, and then manually adjust the focus.
  - Fast-moving subject
  - Subject with significant illuminance change
  - Subject with low illuminance (such as high beam light)
  - Too bright or reflective subject
  - Subject behind a window
  - Less contrasty subject (such as white wall)
  - Subject with remarkable depth
  - Subject with flicker
  - Subject with parallel lines (such as a shutter)
  - Blurred or dirty spherical cover

Attaching the dome cover

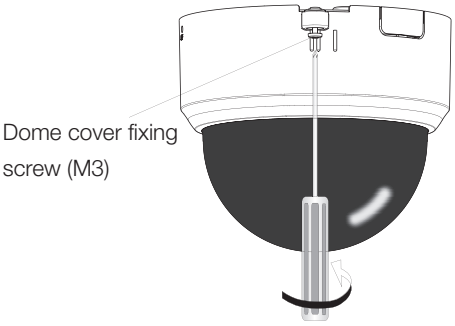
1 **Align the mark with [|] on the dome cover, and then install the dome cover.**



2 **Turn the dome cover clockwise so that the mark aligns with [||].**



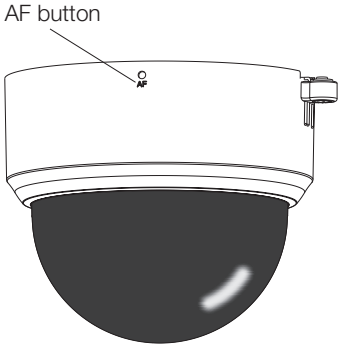
3 **Fix the dome cover and camera body with the dome cover fixing screw (M3).**
(Recommended torque: 0.59 N·m {0.44 lbf·ft})



4 **After finishing the installation, completely peel off the protection sheet that had been retained on the camera.**

5 **Press the [AF] button again to adjust the focus.** CF314L

For more information, refer to page 21.



Setup menu

Performing each setting item in the setup menu should be completed in advance to use this unit.
Perform the settings for each item in accordance with the conditions of the camera shooting area.

List of setup menu

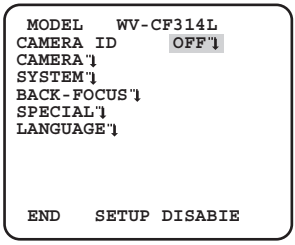
Setup item	Description
CAMERA ID	This item specifies the camera title. The camera title that indicates the camera location and other information about the camera is created with alphanumeric characters and symbol, and then displayed on the screen.
CAMERA	Performs the camera operation settings.
SCENE 1/ SCENE 2	Selects a scene file. It is possible to register and save the settings as a scene file in case that it is necessary to change the settings such when shooting at night.
ALC/ELC	Selects the method of controlling the quantity of light in accordance with the lens to be used.
SHUTTER	Specifies the electronic shutter speed.
AGC	Specifies gain adjustment.
SENS UP	Specifies electronic sensitivity enhancement.
WHITE BAL	Specifies white balance adjustment.
DNR	Selects the level of the digital noise reduction function.
D&N (IR)	Performs each setting regarding the black-and-white mode such as switching between color and black-and-white images.
VMD	Performs settings regarding VMD (Video Motion Detection)
SYSTEM	Performs the settings regarding the camera system such as synchronization and privacy zone.
SYNC	Only INT method can be used; VD2 synchronization cannot be used.
PRIVACY ZONE	Hides undesired portions in the camera shooting area.
STABILIZER	Decides whether or not to enable the image stabilizer.
EL-ZOOM	Switches the electronic zoom on and off.
UPSIDE-DOWN	Flips the camera images vertically or horizontally.
LDC	Adjusts the lens distortion correction to convert the image so that it matches the square monitor.
BACK-FOCUS CF314L	Selects the adjustment method and fine adjustment method for back focus.
SPECIAL	
CHROMA GAIN	Adjusts the chroma level (color density).
AP GAIN	Adjusts the aperture level.
PEDESTAL	Adjusts the pedestal (brightness) level.
PIX OFF	Corrects image defects such as flaws.
CAMERA RESET	Restores the settings in the setup menu to the default settings.
SER.NO.	Displays the serial number of this product.
LANGUAGE	Selects a language to be used in the setup menu.

Basic operation

The operations in the setup menu are performed with the operation buttons after calling up the setup menu on the connected video monitor.
The description below explains how to operate the setup menu basically.
Screenshots of WV-CF314LE are shown as an example.

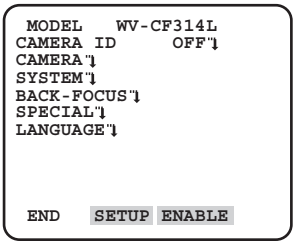
Screenshot 1

Hold down the [SET] button for about 2 seconds to call up the top screen of the setup menu.



Screenshot 2

The setup mode changes to "ENABLE", and the setup menu becomes ready to be set.



Step 1

Press the [UP] or [DOWN] button to move the cursor to "END".

Step 2

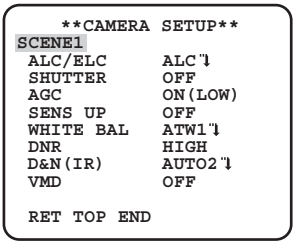
Press the [RIGHT] button to move the cursor to "SETUP", and press the [SET] button to change the setup mode from "DISABLE" to "ENABLE".

Step 3

Move the cursor to the item to be set, and press the [SET] button.

Screenshot 3

The selected setup screen in the setup menu appears on the screen.



Note:

- If the top screen of the setup menu is called up with the operation buttons, the setup mode is always "DISABLE" to prevent operation errors.
  To perform settings in the setup menu, change the setup mode to "ENABLE".
- The cursor is a reversely highlighted part.

Step 4

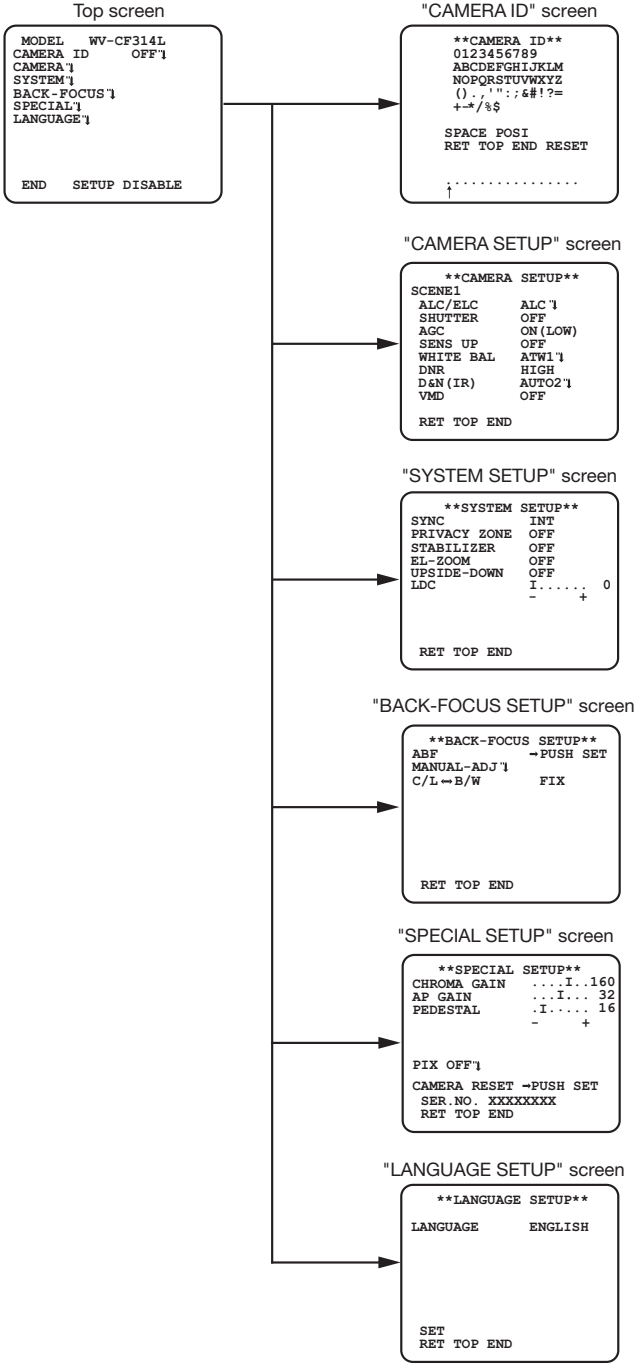
Perform the settings for each item.

- **Selection of setting item:**
  Press the [UP] or [DOWN] button to move the cursor.
- **Change of settings:**
  Press the [RIGHT] or [LEFT] button.
- **Display of advanced setup screen:**
  Press the [SET] button when "↵" is attached to the target setting item.
- **Return to previous setup screen:**
  Move the cursor to "RET" and press the [SET] button.
- **Return to the top screen:**
  Move the cursor to "TOP" and press the [SET] button, to display the top screen of the setup menu.

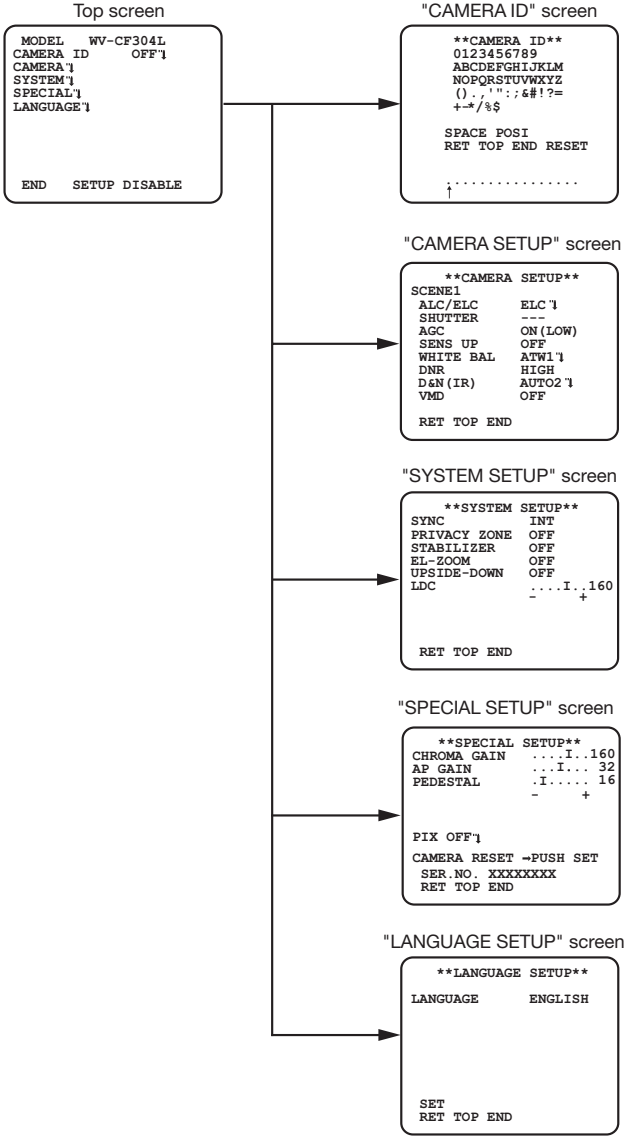
Step 5

Move the cursor to “END” and press the [SET] button to return to the camera image screen, or wait about 5 minutes and the setup menu will automatically close.

Screen transition diagram CF314L



Screen transition diagram CF304L



Troubleshooting

Before asking for repairs, confirm the causes with the following table.
Contact your dealer if a problem cannot be solved even after checking and trying the solution in the table or a problem is not described below.

Symptom	Cause/solution	Reference page
No image displayed	• Are the power cord and coaxial cable connected appropriately? → Check whether the connection is appropriately established.	16-17
	• Is the adjustment monitor connected? → Confirm whether the monitor is connected.	19
	• Is the cushioning material in the spherical cover removed? → Confirm whether the cushioning material has been removed.	–
Blurred image	• Is the spherical cover dirty or damaged? → Verify the state of the spherical cover.	–
	• Is the focus adjusted correctly? → Check if the focus is adjusted correctly.	20-22
	• Is the lens of the camera soiled with dirt or dust? → Check whether the lens of the camera is clean.	–
Damaged power cord sheathing Heated portion of power line consisting of power cord and connector during use The temperature of power cord rises or falls when the power cord is bent or stretched during use	• The power cord or connector is damaged. Continuous use of the damaged cord or connector may cause electric shock or fire. Turn off the power supply immediately and request repair from your dealer.	–
Black line in image	• Is the connected system controller set to multiplexed vertical drive (VD2)? → Check whether the connected system controller is set correctly.	–

Specifications

	WV-CF314LE	WV-CF304LE
Power source	24 V AC 50/60 Hz, 12 V DC	
Power consumption	24 V AC: 3.6 W, 12 V DC: 410 mA IR LED on	
Image sensor	1/3-type interline transfer CCD	
Effective pixels	976 (H)×582 (V)	
Scanning area	4.8 mm (H)×3.6 mm (V)	
Scanning system	2:1 interlace	
Scanning line	625 lines	
Horizontal scanning frequency	15.625 kHz	
Vertical scanning frequency	50.00 Hz	
Synchronization	Internal (INT) (Multiplexed vertical drive (VD2) cannot be set)	
Horizontal resolution	650 TV lines	
Vertical resolution	400 TV lines	
Video output	1.0 V [p-p] PAL composite video signal 75 Ω	
Signal-to-noise ratio	52 dB (AGC OFF)	
Minimum illumination	0.08 lx (color mode) 0.008 lx (black-and-white mode•IR LED off) 0 lx (black-and-white mode•IR LED on)	0.15 lx (color mode) 0.015 lx (black-and-white mode•IR LED off) 0 lx (black-and-white mode•IR LED on)
Lens	3.6x vari-focal lens	Fixed-focal lens
Focal length	2.8 mm to 10.0 mm	2.8 mm
Aperture ratio	F1.3 (WIDE) to F3.1 (TELE)	F2.0
View angle	Horizontal: 100°50' (WIDE) to 27°39' (TELE) Vertical: 73°51' (WIDE) to 20°45' (TELE)	Horizontal: 101°30' Vertical: 75°
Adjustable angle range	Pan: –170 ° to +180 ° Tilt: 0 to 75 °	
	Azimuth: -100 ° to +100 °	Azimuth: -120 ° to +120 °
Ambient operating temperature	–10 °C to +50 °C	
Ambient operating humidity	Less than 90 %	
Dimensions	ø123 mm × 106 mm (H)	
Mass	Approx. 390 g	Approx. 330 g
Camera title	English letter, numbers and symbols: up to 16 characters.	
Light control mode setting	ALC/ALC+/ELC	ELC
Back light compensation (BLC)	ON/OFF	
Adaptive black stretch (ABS)	ON/OFF	
Shutter speed	OFF (1/50), 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/120000 (s)	---
Auto gain control	ON (HIGH, MID, LOW)/OFF	
Sensitivity up	OFF/AUTO (×2, ×4, ×6, ×10, ×16, ×32) /FIX (×2, ×4, ×6, ×10, ×16, ×32, ×64, ×128, ×256, ×512)	OFF/AUTO (×2, ×4, ×6, ×10, ×16, ×32)
White balance	ATW1/ATW2/AWC	
Digital noise reduction	LOW/HIGH	

	WV-CF314LE	WV-CF304LE
Day&Night (IR)	AUTO1/AUTO2/ON/OFF	
IR LED lights irradiation distance	20 m	10 m
IR LED lights	OFF/AUTO/FIX	
Video motion detection	OFF/MOTION DETECTION/SCENE CHANGE	
Number of scene file	2	
Privacy zone	ON (1)/ON (2)/OFF	
Image stabilizer	ON/OFF	
Electronic zoom	ON (up to 2x)/OFF	
Upside-down	ON/OFF	
Lens distortion correction	0 to 255	
Back-focus setup	ABF/MANUAL	---

※ Values of mass and dimensions are approximate. The specification is subject to change without notice.

Standard accessories

CD-ROM* ..... 1 pc.
Installation Guide(this book) ..... 1 pc.
*The CD-ROM contains the operating installations and installation guide (PDF).

The following is used during installation procedures:
Installation template label..... 1 pc.

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)

This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Panasonic Corporation
http://panasonic.net

Importer's name and address to follow EU rules:

Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany

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